INCENTIVIZING A TRANSITION TO ZERO-DEFORESTATION COMMODITIES: RECOMMENDATIONS FOR COLOMBIA, THE DEMOCRATIC REPUBLIC OF CONGO, LIBERIA, AND PERU

FOREST CARBON, MARKETS AND COMMUNITIES (FCMC) PROGRAM

MAY 2015

This publication was produced for review by the United States Agency for International Development.

The U.S. Agency for International Development (USAID) launched the Forest Carbon, Markets and Communities (FCMC) Program to provide its missions, partner governments, and local and international stakeholders with assistance in developing and implementing REDD+ initiatives. FCMC services include analysis, evaluation, tools, and guidance for program design support; training materials; and meeting and workshop development and facilitation that support U.S. Government contributions to international REDD+ architecture.

This publication was produced for review by the United States Agency for International Development by Tetra Tech, through a Task Order under the Prosperity, Livelihoods, and Conserving Ecosystems (PLACE) Indefinite Quantity Contract Core Task Order (USAID Contract No. EPP-I-00-06-00008-00, Order Number AID-OAA-TO-11-00022).

This report was prepared by Leslie Durschinger, Terra Global Capital; Frank Hajek, Nature Services Peru; Nora Nelson, Terra Global Capital; and Melissa Thomas, Conservation International.

Forest Carbon, Markets and Communities (FCMC) Program
1611 North Kent Street
Suite 805
Arlington, Virginia 22209 USA
Telephone: (703) 592-6388
Fax: (866) 795-6462

Stephen Kelleher, Chief of Party
Email: stephen.kelleher@fcmcglobal.org

Olaf Zerbock, USAID Contracting Officer's Representative
Email: ozerbock@usaid.gov

Tetra Tech
159 Bank Street, Suite 300
Burlington, Vermont 05401 USA
Telephone: (802) 658-3890
Fax: (802) 658-4247
E-Mail: international.development@tetratech.com
www.tetratechintdev.com

Tetra Tech Contact:
Ian Deshmukh, Senior Technical Advisor/Manager
Email: ian.deshmukh@tetratech.com

Please cite this report as:
Durschinger, L.; Hajek, F.; Nelson, N.; and Thomas, M. (2015). "Incentivizing a Transition to Zero-Deforestation Commodities: Recommendations for Colombia, Democratic Republic of Congo, Liberia, and Peru". USAID-supported Forest Carbon, Markets and Communities Program. Washington, DC, USA.

INCENTIVIZING A TRANSITION TO ZERO-DEFORESTATION COMMODITIES: RECOMMENDATIONS FOR COLOMBIA, THE DEMOCRATIC REPUBLIC OF CONGO, LIBERIA, AND PERU

FOREST CARBON, MARKETS AND COMMUNITIES (FCMC) PROGRAM

MAY 2015

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS

ARA	Regional Environmental Authorities
ADB	African Development Bank
CAR	Autonomous Regional Corporation
CGIAR	Consultative Group for International Agricultural Research
CIAM	InterRegional Council
CORPOICA	Corporación Colombiana de Investigación Agropecuaria
DFI	Development finance institution
DRA	Dirección Regional de Agricultura
DRC	Democratic Republic of Congo
EU	European Union
FCPF	Forest Carbon Partnership Facility
FEDEGAN	Federación Colombiana de Ganaderos
FEDEPALMA	National Palm Federation
FFB	Fresh fruit bunch
FINAGRO	Fondo para el Financiamiento del Sector Agropecuario
FLEGT	Forest Law Enforcement, Governance and Trade
FPIC	Free, prior and informed consent
GIS	Geographical information system
GIZ	German Cooperation
HCS	High Carbon Storage
HCV	High Conservation Value
IADB	Inter-American Development Bank
IDEAM	Instituto de Hidrología, Meteorología y Estudios Ambientales
IFC	International Finance Corporation
IFI	Intermediary financial institution
IIC	Inter-American Investment Corporation
INIA	Instituto Nacional de Innovación Agraria
MEF	Ministry of Finance

MERCOSUR	Mercado Común del Sur
MINAGRI	Ministry of Agriculture
MINAM	Ministry of Environment
NAMAs	Nationally Appropriate Mitigation Actions
NGO	Nongovernmental organization
OPIC	Overseas Private Investment Corporation
P&C	Principles and Criteria
PNCB	National Program for Forest Conservation
PPP	Public-private partnership
REDD	Reducing Emissions from Deforestation and Forest Degradation
REDD+	Reducing Emissions from Deforestation and Forest Degradation; and the Role of Conservation, Sustainable Management of Forests, and Enhancement of Forest Carbon Stocks
RSPO	Roundtable on Sustainable Palm Oil
SERFOR	Forestry Service
SES	Social and Environmental Standards
SESA	Strategic Environmental and Social Assessment
SMEs	Small and medium-sized enterprises
SNIP	National Public Investment System
TFA 2020	Tropical Forest Alliance 2020
UNODC	United Nations Office on Drugs and Crime
USG	United States Government
USAID	United States Agency for International Development
VPA	Voluntary Partnership Agreement
WB	World Bank

EXECUTIVE SUMMARY

To incentivize zero-deforestation commodity production in tropical forest countries, it is important to ensure that the key factors influencing commodity value chain dynamics align with reducing deforestation. This paper provides recommendations to achieve zero-deforestation commodity production in Africa (the Democratic Republic of Congo [DRC] and Liberia) and Latin America (Colombia and Peru), focusing on the palm oil and beef and dairy sectors. A common assessment framework was developed to determine and compare key barriers to achieving this objective for each country and commodity. A set of interventions to overcome the key barriers is proposed, building on three background papers and ongoing work by other organizations, and followed by a set of recommended investments that the United States Government (USG) and its partners should make to promote zero-deforestation commodity production in the studied geographies and products.

COLOMBIA – BEEF AND DAIRY CATTLE

The main barriers to zero-deforestation cattle production in Colombia are weak rural governance and poor economics of small cattle producers. Limited governance and law enforcement and insecurity result in situations where farmers resist investing in productivity improvements and in adopting low stocking rates as a rational strategy to secure de facto land tenure. This dynamic results in marginal economics of most small-scale cattle operations, which means there is a widespread lack of capital in the sector, precluding investments in productivity or sustainability improvements. To overcome these barriers in Colombia, this paper recommends the following actions: (1) implement zero-deforestation cattle verification[1] systems, with a focus on deforestation hotspots; (2) enhance beef and dairy zero-deforestation supply chains in existing areas best suited for cattle; (3) convert low potential rangelands to non-livestock agricultural production; and (4) mobilize new sources of funds that are aligned with government policies, particularly those aimed at national and sub-sectoral land use and productivity goals. Catalytic financing in the range of between US$41 and $82 million would be needed to support these recommendations, in order to leverage total financing needs in the range of US$2-5 billion.

LIBERIA AND THE DRC – PALM OIL

The main barriers to zero-deforestation palm oil expansion in Liberia are weak governance and an absence of adequate technical and financial services. The main barriers to zero-deforestation palm oil production in the DRC are a weak law and policy environment, coupled with very weak governance and an absence of adequate technical and financial services. To overcome these barriers in Liberia and the DRC this paper recommends the following actions: (1) strengthen the policy framework, land use governance, clarify land tenure, and provide support to communities seeking to secure land rights; (2) support national development and/or interpretation of a process that has clear and relevant principles and criteria as a means of facilitating dialogue between key stakeholders throughout the value chain and promoting the development of national strategic plans for oil palm development; and (3) support zero-deforestation business models by providing financial and technical support to smallholders in particular,

[1] The US Government does not promote a particular certification scheme although it does promote voluntary, transparent and science-based verification schemes.

with the ultimate objective of improving productivity, traceability, and grower livelihoods while conserving forest area. Catalytic financing of US$62 million would be needed to support these recommendations.

PERU – PALM OIL

The main barriers to zero-deforestation palm oil production in Peru are weak rural governance, limited rural financial services, and adverse economics for developing palm oil plantations on deforested and degraded lands. To overcome these barriers in Peru, this paper recommends the following actions: (1) strengthen land use regulations and governance to help resolve current conflicts arising from palm oil expansion in San Martin, Loreto, and Ucayali regions; and (2) encourage ecological intensification and increased yield from smallholder producers and the development of palm oil on suitable deforested landscapes through a dedicated financial vehicle. Smallholder associations should be emphasized, as the potential for zero-deforestation palm oil expansion by corporate plantations is very limited. The program could take the form of a zero-deforestation palm oil fund, managed by the national office of a development bank, reaching smallholder producers through local financial institutions. This paper also recommends (3) ensure participation of all key value chain actors through a process that has clear and relevant principles and criteria in coordination with the agricultural and palm oil Nationally Appropriate Mitigation Actions (NAMAs) currently in development. Catalytic financing of US$31 million would be needed to support these recommendations and catalyze the flow of total financing needs of US$500 million.

TABLE 1: RECOMMENDATIONS AND KEY EXPECTED OUTCOMES

Cattle in Colombia		
Recommendation	**Key Expected Outcomes**	**Financing**
Implement zero-deforestation verification systems	1. Autonomous Regional Corporations (CARs) and/or individual producers have verified zero-deforestation products 2. Land security and accountability improved	US$1-2 million grant per CAR
Integrate laws and policies to improve producer conditions and enhance market access	1. Increased productivity and revenues of beef and dairy value chains in key smallholder areas 2. Well-being of smallholders improved	Up to US$40 million grant per key geographic area
Convert land with low cattle production potential to other more appropriate land uses	1. Low productivity rangeland is converted to high productivity agricultural production 2. Competiveness of supply chains increases for domestic and export markets	Up to US$40 million grant per key geographic area
Mobilize new sources of funds to support policy objectives	1. Financial products designed to meet producer's needs are available at multiple scales 2. Financing to the sector is increased five times, moving from donor to commercial funding	Leverage US$2-5 billion in commercial funding

Palm oil in the DRC and Liberia		
Recommendation	**Expected Outcomes**	**Financing**
Support National Development or Interpretation of relevant and verifiable principles and criteria	1. National Development or Interpretation of P&C 2. Third-party verified palm oil production 3. Mechanism for creation and implementation of national strategic oil palm development plan	US$2 million grant
Strengthen land use governance and clarify land rights	1. Comprehensively developed land use plan 2. Formal recognition of land rights of local communities; reduced land conflict 3. Strengthened monitoring and enforcement capacity	US$20 million grant
Support zero-deforestation business models through dedicated financial vehicle	1. Yield quadruples for 4,000+ smallholder producers 2. 20,000+ hectare expansion of zero-deforestation palm oil plantations 3. 60,000 ton/annum verified zero-deforestation palm oil enters market	US$40 million (non-senior tranche of US$160 million structured finance deal)
Palm oil in Peru		
Recommendation	**Expected Outcomes**	**Financing**
Strengthen land use governance and clarify land rights	1. Strengthened enforcement of regulations, leading to stagnant or reduced deforestation rates in regional forest estate 2. Value chain governance and transparency improved	US$10 million grant
Support zero-deforestation business models through dedicated financial vehicle	1. Two-fold increase in yield for 500+ smallholder producers 2. 20,000+ hectare expansion of zero-deforestation palm oil plantations 3. 45,000 ton/annum verified zero-deforestation palm oil enters market	US$20 million (non-senior tranche of US$80 million structured finance deal)
Support National Development or Interpretation of relevant and verifiable principles and criteria	1. Constructive dialogue between key actors of the value chain 2. Development of Nationally Appropriate Zero-Deforestation Palm Oil Standard	US$1 million grant

1.0 INTRODUCTION

1.1 OBJECTIVE

This paper provides recommendations for the United States Government (USG) and its partners to incentivize a transition to zero-deforestation palm oil in the Democratic Republic of the Congo [DRC], Liberia, and Peru – and to zero-deforestation cattle in Colombia. The paper summarizes three background papers commissioned by USAID[2], as well as the ongoing work of other organizations. It presents prioritized recommendations for each country, including an estimate of the total financing needed to support recommended interventions.

1.2 BACKGROUND AND STRUCTURE OF THIS PAPER

Large, commercial agriculture and timber enterprises are the principal agents of tropical deforestation in several countries, with four key commodities — soy, beef, palm oil, and pulp and paper — driving tropical deforestation globally. Tropical Forest Alliance 2020 (TFA 2020) is a public-private partnership with the goal of reducing tropical deforestation associated with these key global commodities. TFA 2020 was born out of discussions between the USG and the Consumer Goods Forum, a network of more than 400 companies with annual sales topping US$3 trillion.

Environmental, political, social, and economic factors influence the production of commodities. These factors express themselves in different forms, at different times, and with varying intensity along the value chain of each commodity[3]. Tropical deforestation can be understood as an attribute of the existing commodity value chains; therefore, incentivizing a transition to zero-deforestation commodities involves developing the enabling conditions and the correct economic incentives to eliminate this attribute from existing value chains. This step requires understanding not only the economic behavior of the commercial actors along the chain, but also the behavior of the financial and technical companies that provide services to these actors and of the legal, social, and environmental institutions that provide the law, policy, and governance context in which the value chain operates. This conceptualization of commodity value chains can be simplified by proposing five grouped factors that influence the dynamic and attributes of the chain: (1) law and policy; (2) governance; (3) supply-side economics; (4) demand-side economics; and (5) financial and technical services. These factors are presented schematically in Figure 1 and defined in Table 2. Furthermore, each commodity value chain is embedded in a value constellation that includes the value chain of competing products and the regulatory, political, and social

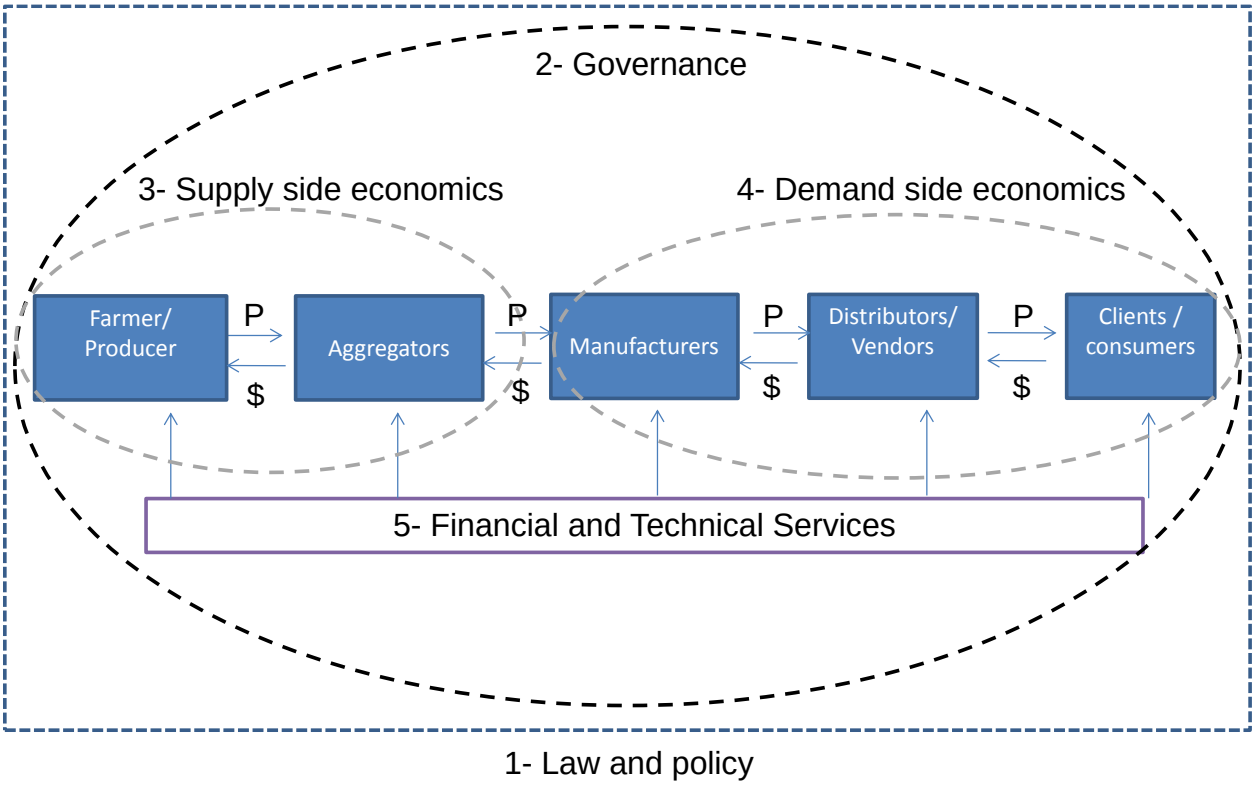
---

2 To help understand barriers to producing a selection of zero-deforestation commodities, and to identify opportunities to overcome these barriers, USAID requested that FCMC prepare three background papers on palm oil expansion in Africa and Peru and on cattle products in Colombia. Those papers are available at: http://rmportal.net/library/content/fcmc/publications

3 In this report the concept of value chain encompasses both the supply and demand relationships for a specific commodity – i.e., both actors involved in supplying goods up the supply chain and the demand for and value ascribed to these goods, which moves down the supply chain towards the original producers. It also includes the relationships and transactions between the different actors involved in transforming the primary commodity into a final product for consumers, as well as the institutions and market logic in which the value chain is embedded

setting of the industry or industries in which they compete[4]. A prime example of this is palm oil, for which the international price is linked both to fossil fuel (fuel industry) and to soy and other vegetable oil (food industry) value chains. Thus, different commodity value chains interdependently drive deforestation. To incentivize zero-deforestation commodity production, key factors influencing commodity value chain dynamics need to align with reducing deforestation. While this analysis focuses on the specific value chains identified, the ultimate long-term goal of reducing deforestation will require an understanding of the multiple interactions among and between associated value chains.

FIGURE 1: VISUAL OVERVIEW OF KEY VALUE CHAIN ACTORS AND RELATIONSHIPS



This paper uses the above conceptualization of value chains to structure the analysis, but does not carry out a full value chain analysis as applied by the United States Agency for International Development (USAID)[5]. Section 2 explores the key barriers impeding zero-deforestation commodity production using

[4] For description of the value constellation concept, see: Ramirez, R. (1999). "Value Co-Production: Intellectual Origins and Implications for Practice and Research." *Strategic Management Journal,* 20: 49-65.

[5] For more information, visit: www.microlinks.org/good-practice-center/value-chain-wiki/32-value-chain-analysis. USAID has invested in value chains and developed multiple models for value chain analysis, including Microlinks, Partnership for Economic Growth. USAID also has a rich knowledge base on livestock and agricultural value chains in several countries. Value chain analysis provides a deep understanding of the market, supply, relationships, and drivers – and how they currently operate. This analysis also provides detailed information on the current barriers to competitiveness and can define the specific interventions to address these barriers. While these studies have not included zero-deforestation production as an intended component to value chain development to date, this approach could be added to existing value chain frameworks in many countries.

a common comparison framework for the selected commodities. Section 3 maps a series of interventions to overcome these barriers in an integrated manner. Section 4 presents a range of specific recommendations and financing options for synergistic investments that the USG and its partners could make to promote zero-deforestation commodity production in the studied geographies and products.

2.0 BARRIERS IMPEDING ZERO-DEFORESTATION COMMODITY PRODUCTION

Though social, economic, and environmental differences exist between the selected countries, commodity value chains share many similarities across the different contexts. A common comparison framework was developed to identify the greatest barriers to zero-deforestation production, using the value chain conceptualization presented above. The framework was designed to apply to the cattle sector in Colombia and to the oil palm sector in the DRC, Liberia and Peru, but it could be applied across diverse geographies, commodities, and producer types.

2.1 COMPARISON FRAMEWORK TO IDENTIFY MAIN BARRIERS IMPEDING ZERO-DEFORESTATION COMMODITIES

The framework identifies the barriers impeding a transition to zero-deforestation by assessing the status of the five key factors that influence value chain dynamics, as explained in Table 2 below. Following a narrative analysis, the authors evaluated the status of each commodity with regard to each factor and scored them from 1 to 5, with a score of 5 meaning that the factor is a very large barrier and a score of 1 meaning that the factor is a negligible barrier[6]. Finally, to enable a visual comparison between commodities and countries, the scores are presented in spider diagrams. The larger the area inside the polygon in each spider web, the greater the barriers present – and the more difficult it will be to incentivize deforestation-free commodities. We suggest further refinement of this framework to create a tool that the USG could use to rapidly assess barriers and opportunities in other commodities across regions.

TABLE 2: KEY FACTORS THAT COULD ACT AS A BARRIER TO ZERO-DEFORESTATION VALUE CHAINS

Factor	Impact on zero-deforestation commodity production	Key questions
Law and policy	A country's laws or policies may encourage deforestation to produce a commodity. These laws or policies are not related to a specific commodity. For example, a law or policy could promote unsustainable commodity production directly through its support of land clearing or indirectly through regulatory gaps.	*Are current laws and policies leading to forest conversion for commodity production? Which laws and policies are lacking?*

[6] Scoring: 5 = very large barrier; 4 = large barrier; 3 = medium barrier; 2 = minor barrier; 1 = negligible barrier

Governance	Weak law enforcement and/or institutional arrangements contribute to deforestation. Weak law enforcement includes improper permitting and prosecution of illegal clearing. Weak institutional arrangements include inadequate inclusion of key stakeholders in decision-making regarding land use and commodity production or expansion.	*Is the lack of adequate enforcement of laws leading to deforestation? How prevalent is corruption? How transparent are institutional arrangements?*
Supply-side economics	Producer economics of commodity production may dissuade sustainable production or contribute to unsustainable production practices. Producer economics can include the following issues: 1. High returns associated with clearing forest to support expansion 2. Failure to adequately include environmental impact of deforestation in investment decisions 3. Barriers that affect viability of improving productivity of land already under production, such as poor infrastructure	*Is deforestation per se profitable? What are the per-hectare returns of production? How do the economics of expansion versus increased yield look?*
Demand-side economics	The nature of value chain demand may contribute to deforestation, which may occur when manufacturers or final consumers do not value deforestation-free versus unsustainable supply, or when they are not able to trace/differentiate between sustainable and unsustainable suppliers, irrespective of the level of demand.	*Are final clients aware of commodity-induced deforestation? Do mechanisms/systems exist to trace sources of supply?*
Financial and technical services	A lack of financial services and technical services may act as a barrier on both the supply and demand side of producing zero-deforestation commodities. Examples on the supply side include a lack of technical extension services for producers or rural credit schemes with very high interest rates that force farmers to maximize short-term profits from their land. Examples on the demand side include technical services that certify zero-deforestation commodities or financial incentives for manufacturers and consumers that internalize the environmental externalities of their products.	*Are current financial arrangements preventing yield increases or deforestation expansion? Is a lack of technical extension services driving deforestation?*

2.2 BEEF AND DAIRY IN COLOMBIA

2.2.1 Law and policies (Score = 3)

Colombia's laws and policies are not yet well harmonized to achieve the country's agricultural productivity goals. The country's current formal land tenure process does not support national and sector-specific strategies to increase intensification of cattle production on less land, nor the desire to expand non-livestock agricultural production onto a greater land area. A lack of strong land tenure policy will continue to undermine zero-deforestation cattle and productivity objectives because of cultural beliefs surrounding what cattle ranching "should" look like, and because of inefficient or

inadequate land tenure policies will continue to promote adverse possession and informal tenure through the placement of cattle onto new land. Colombia's various trade agreements (Section 3.4.1) have further affected the country's cattle industry and have resulted in an emphasis on quality and sanitation/admissibility standards among export-oriented producers and other actors at the expense of small beef and dairy producers.

2.2.2 Governance (Score = 4)

A conflicting policy environment has resulted in poor land use governance due to a lack of formal land tenure. This context has limited access to finance, particularly for small producers that make up the vast majority of producers in the cattle sub-sector. As a result, high up-front costs to convert to best practices will remain in place in the absence of policies to support more efficient land tenure processes and tenure tracking.

2.2.3 Supply-side economics (Score = 3)

There is significant disparity between the economics of small and large producers, and there are imbalances in investment and technical assistance received. Many small-scale cattle producers operate on a subsistence basis only. A lack of necessary technology and infrastructure — particularly a lack of extensive and well maintained roads, a lack of access to formal aggregation and processing facilities, and ultimately a lack of access to market — will continue to be detrimental to small producers without significant interventions. The absence of refrigeration and other technology that preserves the quality and longevity of dairy products is also a key constraint. Few associations, cooperatives, or other organizations support small producers. The Federación Colombiana de Ganaderos (FEDEGAN), the main cattle industry interest group, primarily supports initiatives aimed at large producers – particularly initiatives that improve competitiveness in the international market.

2.2.4 Demand-side economics (Score = 1)

The Colombian cattle sub-sector suffers from a lack of domestic and international demand for its products, sustainable or otherwise. Domestically, consumers are not interested in purchasing sustainably produced Colombian beef and dairy products, and the supply companies interviewed for the analysis felt that opening such a niche market would require many of their resources. Price remains the only differentiator driving consumer purchasing decisions in the Colombian context, particularly as they are increasingly presented with higher quality, lower-cost imports. As a result, costs to adopt best practices make it even more challenging for producers of zero-deforestation cattle to be competitive in the current environment. Colombian beef and dairy products remain similarly uncompetitive in the international export market, as most products are inadmissible in foreign markets due to health and sanitation requirements. Support for addressing these issues is directed almost exclusively at large producers, who focus on meeting international quality standards rather than sustainability. There is also limited to no traceability of cattle products. For those producers with access to formal processing facilities, traceability ends at aggregation, when their products are combined with those of other producers. This issue is especially problematic for dairy products.

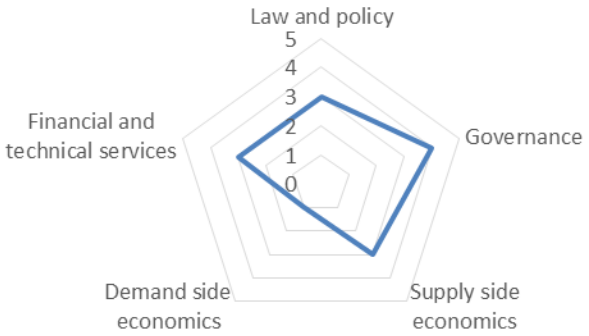
2.2.5 Financial and technical services (Score = 3)

Shortfalls in financing are cross-cutting and have impacts across the value chain for both beef and dairy. These impacts include shortfalls for capital projects required to support much-needed infrastructure and

technical assistance. Larger infrastructure needs will require significant capital investment beyond what the sub-sector can provide, and loans for these projects may compete with other capital projects.

There is also a financing shortfall to support current policy objectives, and current goals do not align well with existing and projected sources of finance.

FIGURE 2: COLOMBIA BEEF



2.3 PALM OIL IN THE DRC AND LIBERIA

2.3.1 Law and policies (Score DRC = 5; Score Liberia = 4)

The lack of clarity regarding land tenure and resource rights presents a significant challenge for oil palm development in both Liberia and the DRC. However, the legal and regulatory environment governing the development of forest resources varies between countries. Whereas Liberia has established several laws, including the National Forestry Reform Law and the Community Rights Law, which seek to strengthen the management and protection of forests and community rights, the DRC requires additional capacity to support the development of such laws. Despite these differing contexts, the potential for plantation companies to encounter land-related grievances is high in both countries. Additionally, both countries lack strategic national land use plans to guide the future development of oil palm cultivation. This context creates the potential for uncontrolled and opportunistic land clearing that could threaten both forests and communities.

2.3.2 Governance (Score DRC = 5; Liberia = 5)

There is significant lack of government capacity to implement and enforce sustainable natural resource management policies. This need is compounded by a general lack of local technical expertise, which is due in part to the lengthy violent conflicts in both countries and the time it takes to rebuild the human talent and networks necessary for staffing government agencies, nongovernmental organizations (NGOs), and plantation and processing companies. Additional factors such as the Ebola Virus Disease in Liberia as well as safety and conflict issues in the DRC influence the potential for successful implementation and enforcement of policy. Corruption also contributes to weak enforcement and poses obvious challenges to transparency efforts. As in other countries in Africa and elsewhere, hazardous and exploitative working conditions are also significant issues within the oil palm sector.

2.3.3 Supply-side economics (Score DRC = 3; Liberia = 3)

Production levels on existing oil palm plantations are extremely low in both Liberia and the DRC, averaging 2-3 tons of fresh fruit bunches (FFBs) per hectare – approximately 10 percent of modern commercial plantation productivity. This low productivity result from traditional, non-intensive cultivation methods and a lack of required reinvestment in new cultivars, plantation technology, and research and extension services in both countries. Even with high-yielding varieties, additional incentives and support would be needed to help producers cut old trees and replant given the three-to-four year period before the new trees produce fruit. Smallholders need alternative income sources during this period and may be forced to take on loans. These loans usually come with harsh terms and high interest rates, which can prolong the time between planting and realizing profits and may lead to smallholders liquidating environmental assets (i.e., cutting more forest) to meet repayments. In Liberia, international investors are interested in developing new large-scale plantations, which could lead to significant forest loss. Some international companies are also beginning to look at the DRC for oil palm development – they have taken over abandoned plantations and are investing in their rehabilitation. While there is significant land suitable for palm oil plantation rehabilitation in the DRC, the lack of political stability and adequate incentives mentioned above have blocked significant investment so far.

2.3.4 Demand-side economics (Score DRC = 3; Liberia = 4)

Most palm oil production in Liberia and the DRC is for domestic markets. There is a rural market for traditional, locally pressed palm oil and a growing urban market for more processed palm oil products. There is little to no differentiation between sustainable and unsustainable products in either market. Demand for export is not a significant driver of current deforestation but may play a more important role in Liberia than in the DRC in the future. In Liberia, vertically integrated multinational producers, including Sime Darby and Golden Veroleum, have consolidated palm oil plantation concession areas of more than 500,000 hectares, potentially representing approximately US$3.8 billion in investment, mostly on forested lands. Investments of this scale are necessarily tied to expectations of future export demand.

2.3.5 Financial and technical services (Score DRC = 5; Liberia = 5)

Historical investments in the sector, such as research stations in the DRC, are outdated or no longer operational. There is a general lack of modern machinery, infrastructure, technical extension capacity, and agricultural financial services in the DRC and Liberia palm oil sectors, let alone for zero-deforestation palm oil. To date this issue has impeded the growth of the plantation palm oil sector and is unlikely to be remedied in the near term as global palm oil prices steadily decrease, further limiting private sector investment in development, expansion, and/or capital and infrastructure improvements.

FIGURE 3: DRC PALM OIL

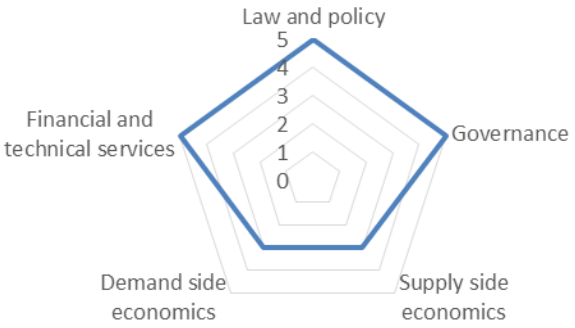
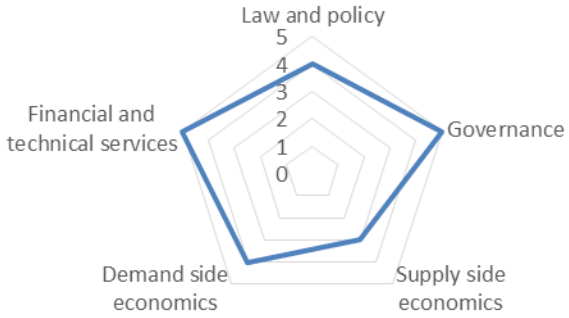


FIGURE 4: LIBERIA PALM OIL



2.4 PALM OIL IN PERU

2.4.1 Law and policy (Score = 3)

Peru has a complex, often contradictory, regulatory framework regarding the agriculture and forestry sectors, in which agriculture and forestry authorities often issue conflicting messages and adopt contradictory actions. Though there is an ongoing effort to harmonize the agriculture, forestry, and environmental laws at the national and regional level, at best it will take several years for the new regulatory framework to be well understood and applied at the local production level.

2.4.2 Governance (Score = 5)

Limited institutional and law enforcement capacity — compounded by high levels of corruption and/or informal behavior in both the state and business groups involved in the agricultural and forestry sector — make it very challenging to work toward zero-deforestation palm oil cultivation in Peru. Incomplete land rights and land tenure, as well as the absence of land use capacity maps for the Amazon regions, create an uncertain environment in which it is difficult to distinguish between legitimate and illegal agricultural expansion projects.

2.4.3 Supply-side economics (Score = 3)

The economics of developing plantations on deforested and degraded lands exhibit significantly higher costs than developing plantations on primary forests. These amounts include higher costs of land purchase, higher transaction costs related to land aggregation, and lost revenues from land clearance timber sales – totaling an estimated US$2,000 per hectare.

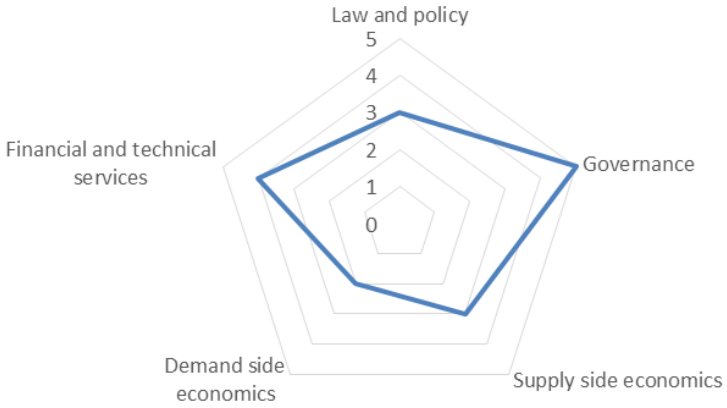
2.4.4 Demand-side economics (Score = 2)

To date, key food industry actors like Alicorp and Unilever source palm oil nationally and through imports, based on price and the chemical and nutritional properties of the product, with the social and environmental attributes of the oil playing a very small role in the purchase decision. There is also a general lack of awareness among consumers regarding the ecological footprint of palm oil in the foods they consume. This awareness may change from 2015 onward, as Unilever has made a public commitment to source only zero-deforestation palm oil in its Peruvian operations.

2.4.5 Financial and technical services (Score = 4)

Smallholder palm oil producers have very limited access to credit and financial services, especially of the type that could encourage ecological intensification and environmental stewardship. As a result, new plantations emphasize short-term cost savings and not medium/long term environmental and social sustainability. Though examples of smallholder-corporate producer cooperation exist, these are limited in size and geographical coverage. Cooperation between different types of producers in the value chain has not been a focus of investment or development support to date. Limited pure and applied research into sustainable palm oil production and value chains is symptomatic of a country whose government and research community has under-invested in the rural sector for several decades.

FIGURE 5: PERU PALM OIL



3.0 INTERVENTIONS TO OVERCOME BARRIERS TO ZERO-DEFORESTATION COMMODITY PRODUCTION

The FCMC background papers contained recommendations for addressing the identified barriers. This section summarizes these interventions by country and according to the value chain factors described in Section 2 above.

3.1 LAW AND POLICY

3.1.1 Colombia beef and diary

FEDEGAN supports Colombia's National Development Plan, which intends to promote intensive silvopastoral systems and reduce pastureland from 38 million hectares to 28 million hectares by 2019 while increasing cattle from 23 million head to 40 million. This result implies going from a stocking rate of 0.6 per hectare to 1.4 per hectare – a 2.5-fold increase. Much of this reduction in grazing land is expected to support the expansion of 14 million additional hectares of non-livestock based agricultural activities. These policy objectives are ambitious given that the estimated financing required to execute them greatly exceeds projected annual budgets, and any existing or future investment would need to be very carefully and closely aligned with land use strategies that promote new non-livestock agriculture. Additionally, the use of livestock as a means to secure tenure and avoid expropriation prevails in many parts of Colombia and is attributable in part to current tenure laws. The development of new policies to address the role of livestock farms in land speculation should be supported.

3.1.2 DRC/Liberia palm oil

Given the early stage of palm oil development in Liberia and the DRC, effective policies are particularly important to guide future investments and to set environmental and social expectations of plantation companies. Support should be provided to develop, as a priority, a strategic oil palm development plan at the national level. Such strategic development plans should be based on comprehensive land use planning processes to identify the areas most suitable for oil palm development, the areas most critical for conservation, and the most optimal locations for establishing processing facilities based on current and planned transportation infrastructure. The social risks and opportunities associated with these areas also need to be factored into the land use plans, including the potential for significant positive impact on smallholders. Lessons can be gleaned from Thailand, where to expand rice production the government engaged smallholders in a massive land-titling program; provided government support for research, extension, and credit; supported producer organizations; and provided necessary investment in road and

rail infrastructure development.[7] A similar approach in the DRC and Liberia could spur expansion of the sector as well as the ability to meet domestic demand for palm oil and develop the potential for export. As mentioned in the preceding section, in Liberia the policy context on which to build such a plan is well advanced, while in the DRC it is not; therefore, broader policy development support is also needed for the latter.

3.1.3 Peru palm oil

The policy and regulatory framework is not as significant a barrier as other factors, but opportunities exist to support reform to promote zero-deforestation palm oil expansion. Inter-sectoral coordination between the Forestry Service (SERFOR), the Directorate of Agricultural Competitiveness at the Ministry of Agriculture (MINAGRI), and the National Program for Forest Conservation (PNCB) at the Ministry of Environment (MINAM) should be supported, specifically around the agricultural landscape and palm oil Nationally Appropriate Mitigation Actions (NAMAs) currently in development. Tenure clarification and land titling initiatives for indigenous peoples should be supported to reduce 'free' state lands and regional governments' questionable allocation of primary forest lands. Synergies with the recently approved Inter-American Development Bank (IADB)-funded Land Cadastre and Titling Project (PE-L1026) and the tenure clarification activities of the PNCB and SERFOR should be explored.

3.2 GOVERNANCE

3.2.1 Colombia beef and diary

Governance was found to be the most important factor driving deforestation in Colombia. Colombia as a whole is characterized by high levels of informal land ownership in rural areas, and it suffers from delays in its official notarial and registry system. For example, the municipalities of Cicuico, Talaigua Nuevo, and Mompox in the Momposina Depression produce about 1.2 million tons of fish per year; however, the pressure to solidify land tenure claims has led to a cultural preference for ranching over fishing. This change has resulted in increased cattle-raising activity in lowland areas and the loss of productive floodplain forests.[8] In areas where deforestation is high, special investments should be made to help record and formalize lands to identify how these changes relate to deforestation and to track future land use. This approach should be taken for high-risk municipalities and to bring them into the formal land use systems. These actions will also improve farmers' access to finance, because a lack of property and/or land tenure rights is a barrier to accessing many sources of finance.

3.2.1 DRC/Liberia palm oil

Governance is a significant barrier to the effective implementation of zero-deforestation strategies and policies in Liberia and the DRC. Even with a national land use plan, a dedicated effort will be needed in each country to enforce these policies and prevent illegal deforestation and illegal oil palm development. A program is needed to improve transparency in oil palm development – particularly around

---

7 Megevand, C.; Mosnier, A.; Hourticq, J.; Sanders, K.; Doetinchem, N.; Streck, C. (2013). "Deforestation Trends in the Congo Basin: Reconciling Economic Growth and Forest Protection". World Bank Group.

8 Great Rivers Partnership. (2013). "GRP Releases Its 2013-2017 Business Plan". Retrieved from http://www.greatriverspartnership.org/en-us/NewsAndCommunity/Lists/Posts/Post.aspx?List=70a7462c-0940-4602-ab68-f87fdad1d537&ID=76&Web=41c81e50-eadd-4d65-b67e-f88f3c522957

concession-granting practices. Governments need support to help define a clear process that outlines how concessions are awarded, including consideration of all social and environmental risks and making concession information publicly available. Making concession information publicly available will promote transparency, support more constructive community engagement efforts, and allow for better monitoring of legal and illegal oil palm development. This effort will help improve accountability, particularly with support from new tools like the Global Forest Watch Commodities platform that incorporate oil palm concession data into an open-access format.

Efforts to improve forest governance should leverage and seek to learn from other initiatives. For example, both Liberia and the DRC are Voluntary Partnership Agreement (VPA) countries under the European Union's (EU's) Forest Law Enforcement, Governance and Trade (FLEGT) program. The DRC is currently negotiating its VPA, while Liberia's VPA is already under implementation. Liberia is also using the Reducing Emissions from Deforestation and Forest Degradation; and the Role of Conservation, Sustainable Management of Forests, and Enhancement of Forest Carbon Stocks (REDD+) Social and Environmental Standards (REDD+ SES) and initiated its Strategic Environmental and Social Assessment (SESA) under the Forest Carbon Partnership Facility (FCPF). In addition, several private sector actors have made voluntary commitments to the RSPO and to achieving third-party certification. Some plantation companies have established sustainability policies and commitments that go beyond the requirements of the RSPO, such as Golden Veroleum's Forest Conservation Policy. These efforts can contribute to stronger governance and can be supported by government and civil society stakeholders to ensure that all corporate policies include transparent community engagement plans that guarantee the rights of local communities and indigenous peoples. All corporate policies related to social and environmental sustainability of palm oil investments should be made publicly available on company websites. These plans should clearly outline the company's policies on land acquisition and plantation development, specifically demonstrating how communities and private landowners will be engaged and how their permission will be sought. If there is a land transaction, financial and other terms should be clearly and explicitly explained to communities during negotiations in a manner that communities are able to understand easily.

3.2.3 Peru palm oil

Governance and traceability challenges were identified as one of two leading factors preventing zero-deforestation palm oil in Peru. This factor can be addressed by investing in strengthening the operational capacity of regional land use and natural resource management institutions, including the recently created Regional Environmental Authorities (ARA; *Autoridades Regionales Ambientales*). This strengthening should be synergistic with other land use governance initiatives currently underway by the Peruvian Government and the Peruvian Forest Investment Plan. Producer and civil society engagement should be strengthened by continuing to support the Peruvian government with the national decentralization process, paying special attention to land and natural resource use considerations, as well as to participatory fora such as the ongoing Roundtable for Sustainable Palm Oil (RSPO) in Peru. Transparency can be improved by making land zoning and tenure information available in geographical information system (GIS) format on open-access web portals such as Global Forest Watch. The development of Principal Land Use Capacity maps between the national and regional governments (possibly using a region of palm oil interest like Ucayali or Loreto as a pilot) should be supported, and its integration in the Agro-ecological Zoning and Ecologic-Economic Zoning processes should be encouraged.

3.3 SUPPLY SIDE ECONOMICS

3.3.1 Colombia beef and diary

Many small cattle producers are unable to compete from a quality or sustainability perspective and have limited access to markets for their products. Thus, small producers are a prime target for the country´s program to expand intensive silvopastoral systems and non-livestock based agricultural activities. As a first step, analytical work must be carried out in key geographies to identify targets for investment based on region, productivity, and current deforestation footprint.

3.3.2 DRC/Liberia palm oil

Compared to global averages, both the DRC and Liberia have extremely low yield rates for the production of oil palm fresh fruit bunches. One factor significantly contributing to these low yield rates is aging plantations. In Liberia, smallholders often harvest fruit from trees as old as 35 years[9], far beyond the 25-year commercial lifespan of trees on oil palm plantations in Southeast Asia. Therefore, increasing production efficiency of plantations in the DRC and Liberia will require significant replanting using improved varieties and techniques. To enable this effort, a significant investment in technical assistance and nursery development is required to introduce improved varieties for both plantations and smallholder producers. Pilot projects or demonstration plots can be established to prove the effectiveness of good agricultural practices — such as proper planting and spacing techniques, as well as composting, fertilizer management, and soil management — on improving production. These pilots can also serve as outreach vehicles to raise awareness of sustainability practices among local community members. One example is the SNV Netherlands Development Organisation project in the DRC, which supports artisanal palm oil production and processing as part of a zero-deforestation strategy. More specifically, the program provides services for increasing palm oil production while also increasing the value of the forest by investing in non-timber forest products and their processing, improving access to markets, and promoting sustainable forest management.[10]

The unique challenges facing smallholder producers — which currently account for 50 percent and 85 percent of palm oil production in Liberia and the DRC respectively — will need to be considered and addressed to ensure zero-deforestation oil palm expansion. Any investment in palm oil processing should give attention to the artisanal processing infrastructure already in place in the country and often managed by women. In Liberia, for example, women produce 60 percent of agricultural products and carry out 80 percent of trading activities in rural areas (IFAD 2011). By investing in these female-owned businesses, companies will not only maintain traditional economic opportunities for women, but also support broader social and economic well-being in communities. Studies have shown that investments in women-run businesses can generate significant benefits for improved livelihoods and poverty alleviation (World Bank et al., 2008).

3.3.3 Peru palm oil

Producer economics was identified as an important barrier in Peru. The additional costs of developing palm oil on degraded and deforested lands should be studied in greater detail. Additionally, a financial

---

9 Fricke 2010.

10 Smit, personal communication.

incentives program for the aggregation, restoration, and planting of oil palm on these landscapes should be made available to palm oil growers. Incentives could potentially be linked to new biochar and biofertilizer production initiatives, either as independent commercial enterprises or linked to palm oil processing facilities. This work should build on ongoing activities by the Peruvian Ministry of Finance (MEF) and German Cooperation (GIZ) to mainstream natural capital projects in the National Public Investment System (SNIP).

Financial incentives and credit should be directed to the following three key areas of ecological intensification, which have been shown to increase smallholder productivity by 200 percent or more and to increase natural disease resistance:

1. High quality seed (an investment of US$1 per plant produces returns of $1000+ over plant lifetime)
2. Optimize fertilizer application (which accounts for 50-60 percent of operating costs in industrial plantations)
3. Implement harvest best practices

These financial incentives should be linked through contract to the maintenance of primary forests, especially High Conservation Value (HCV) and High Carbon Storage (HCS) forests, following the Palm Oil & Reducing Emissions from Deforestation and Forest Degradation (REDD) scheme proposed by Killeen (2011), with monitoring of compliance by third parties. Peru's robust small and medium enterprise finance sector[11] could be an important ally in this undertaking. The financial support to producers should occur in parallel to strengthened collaboration between international (e.g., the Consultative Group for International Agricultural Research [CGIAR]), regional (e.g., Corporación Colombiana de Investigación Agropecuaria [CORPOICA], Colombia) and Peruvian (e.g., Instituto Nacional de Innovación Agraria [INIA]) agricultural and forestry research institutions. Emphasis should be placed on articulating current research agendas and investments that focus on increased yield, disease resistance, and climate change resilience, including INIA´s US$100 million IADB-funded agricultural innovation program, which is in initial stages of execution.

3.4 DEMAND-SIDE ECONOMICS

3.4.1 Colombia beef and diary

For the domestic beef supply chain to become more competitive, there must be two responses: reducing marginal costs, and improving productivity per unit of production. Efficiency gains must be achieved through adoption of new technologies that will reduce marginal costs by 2-4 percent every year to enable Colombian beef in particular to remain competitive with imports – particularly those originating in Mercado Común del Sur (MERCOSUR) countries. Implementation of FEDEGAN's strategic plan may also play a key role in shielding producers from the impacts of these trade agreements. However, FEDEGAN acknowledges that assistance toward meeting international requirements would be limited to "export farms" selected for their high degree of technology adoption; these farms are primarily large producers. Even if the internal objectives of the sector could be attained, it is "unlikely" that benefits would reach Colombia's small cattle producers.[12]

---

[11] See banks like MiBanco and CrediScotia, as well as the consolidated Caja Municipal and Caja Rural sub-sectors.

[12] Salamanca, G. and Landinez. (2009). "Impact of the US-Colombia FTA on the Small Farm Economy in Colombia". Oxfam International.

At the same time, productivity increases should be achieved by supporting the following items:

- Improved pastureland quality
- Improved breed distribution based on geography; improved cattle genetics
- Improved health and sanitation, particularly for dairy products
- Enhanced human capital
- Improved associativity of small producers through creation of new collectives and organizations
- Improved rural infrastructure

A lack of traceability further hinders Colombian beef and dairy products in their ability to compete on the basis of zero-deforestation or otherwise sustainable production. Traceability of products should be achieved by implementing municipal-level and farm-level science-based verification of zero-deforestation producers and by improving land tenure tracking. Promoting small producer associations also opens up new opportunities for verification and traceability. There are different approaches to verifying zero-deforestation cattle, and these approaches can be implemented fairly quickly for high-risk jurisdictions. Some of these approaches include i) the Sustainable Agriculture Network – Standard for Sustainable Cattle Production Systems; ii) the Round Table for Sustainable Beef principles and criteria for global sustainable beef production; and iii) the Verified Carbon Standard's jurisdictional nested REDD+ rules and requirements, which would help track emission and reductions from REDD+ across a jurisdiction. None of these approaches alone are ideal for providing a reliable, simple, and cost-effective way to ensure that beef is truly zero deforestation; however, elements of these transparent and science-based approaches might be leveraged to create one that can be piloted in the highest deforestation risk municipalities in Colombia.

3.4.2 DRC/Liberia palm oil

The creation of country-specific supply chain strategies through multi-stakeholder processes under the auspices of TFA 2020 is a key way to bring together private sector and government stakeholders. This effort is already occurring in Liberia, one of the West African focal countries within the *TFA 2020 Action Plan on Oil Palm Development in Africa*. The ongoing efforts on the National Interpretation of the RSPO P&C allows key stakeholders from all segments of the value chain the opportunity to discuss how oil palm can be developed and expanded while taking environmentally and socially responsible practices into account, giving consideration to the unique challenges and opportunities that exist within a given country. The National Interpretation also provides the context for eventual verification of sustainably produced palm oil, as well as mechanisms like the RSPO Supply Chain Certification System that can help to establish a degree of traceability for verified supply. Liberia's participation and efforts in these initiatives should be supported, and the process for defining the national interpretation of relevant and verifiable principles and criteria for the DRC should be initiated.

3.4.3 Peru palm

The RSPO is incipient in Peru and should be further encouraged, as it is seen as a legitimate space in which intersectoral dialogue between palm oil producers, palm oil consumers, government, and civil society can take place. Dialogue is an important strategy for conflict prevention and resolution and a key, as yet underutilized, component of Peru's political and economic decentralization process currently underway. Environmental awareness and action is increasing in Peru, but the link to sustainable

consumption is still in its very early stages. Companies' (like Unilever Peru's) recent commitments to zero-deforestation palm oil sourcing should be encouraged and monitored.

3.5 FINANCIAL AND TECHNICAL SERVICES

3.5.1 Colombia beef and dairy

Though technical services focusing on productivity, sanitation, hygiene, and market admissibility should continue, technical assistance focusing on cattle production sustainability should be strengthened. To date, small and medium-sized producers are more likely to receive technical assistance focused on the adoption of best management practices, while larger producers tend to receive technical assistance related to quality and admissibility in domestic and international markets, with seemingly little focus on sustainability. Organizational innovation among smallholder producers also should be encouraged. Nestle's 'milk districts' aggregation project could be a useful pilot to escalate. Without prioritizing zero deforestation for both small and large producers, Colombia risks continuing to direct a disproportionate amount of financial and technical resources to those producers that are already better equipped to help themselves – at the expense of small producers and the larger goal of reducing pastureland while increasing productivity.

3.5.2 DRC/Liberia palm oil

Extension services that provide new palm oil varieties can help increase production efficiency of current oil palm plantations. To enable this shift, a significant investment in technical assistance and nursery development is required to introduce improved varieties for both plantations and smallholder producers. The lack of funds in the DRC to maintain research stations and provide extension services to smallholder producers is especially problematic given that smallholders represent about 85 percent of the country's oil palm production. Improving extension services will need to be developed in parallel to improved financial services for smallholders, as higher yield production needs to be accompanied by fertilizer and other ongoing inputs. These financial services should be catalyzed through the creation of a fund to provide low-interest loans to growers to support replanting with higher-yielding seeds and to cover the period of time during replanting and maturation of trees. Oil palm developments can make substantial contributions to tax revenues; thus, if these revenues can be collected, a percentage of revenues could be diverted to support the ongoing financial sustainability of such a development fund. There is also some potential for large plantation companies to finance extension and support services for smallholder producers.

If investments in productivity improvements are realized at the grower level, companies will have greater incentive to invest in additional and/or improved processing capacity. In the interim, international and local financial institutions can help finance processing and infrastructure improvements and deliver a range of finance services to a large number of commercial growers, smallholders, and agribusiness. International donors and financing agencies should also redirect their funding from balance of payments subsidies to investments in productive infrastructure and human resource development.

3.5.3 Peru palm

Private investment in corporate plantations was identified as the leading barrier to zero-deforestation palm oil expansion in Peru, as more than 70 percent of new corporate plantations occur on primary forest lands. To direct private investment to zero-deforestation plantations, the Peruvian authorities should develop and enforce guidelines to stop allocating primary rainforest lands to corporate palm oil plantations. This effort implies coordinated action between national, subnational, and local authorities.

To allow for palm oil plantation expansion, there is a need to develop financial incentives that support existing corporate palm oil processing actors (e.g., Industrias del Espino and Industrias del Shanusi) to invest in the productive capacity and expansion of associative producers, including both small and medium-sized producers, in deforested landscapes. The current association of Industrias del Espino with the National Palm Federation (FEDEPALMA-SM) could be a useful template for this context.

4.0 RECOMMENDATIONS AND FINANCING OPTIONS

This section covers a range of investments that the USG and its partners would need to make to promote zero-deforestation commodity production in the chosen geographies and commodities. These investments include direct investments and the deployment of new or existing financing instruments to catalyze non-government sources. The financing recommendations for these programs are detailed in Section 0 and are based on the three background papers commissioned by FCMC.

4.1 RECOMMENDATIONS BY COMMODITY, COUNTRY, AND PRODUCER SIZE

4.1.1 Colombia beef and dairy

Four related programs, integrated into a full value chain approach, were identified to support Colombia's conversion to zero-deforestation beef and dairy and the government's ambitious goals for reducing rangelands and increasing productivity. In order of priority, these programs include:

1. Implementing zero-deforestation cattle verification systems, with a focus on deforestation hotspots. Such standards would be designed to leverage similar transparent verifications, to the extent possible, in geographically appropriate areas with the necessary political will and capacity. They would focus on supply-side conditions where qualities inherent to the supply chain make the use of such a standard attractive for value chain buyers. These measures would support more efficient and inclusive land tenure policies, strengthen forest governance, and improve economics for producers through economies of scale. This work would result in reduced cost to adopt new practices, reduced opportunity costs, and/or improved income generation and product traceability, hence improving access to sustainable markets.

2. Supporting the coordination and integration of relevant laws and policies to improve producer conditions and to enhance domestic and international market access. These measures would support producers by reducing legal and administrative costs and encourage associativity as a tool to raise standards and gain market access. They would focus production in geographies with strong potential for profitable zero-deforestation cattle.

3. Converting low-potential rangelands to non-livestock agricultural production. This strategy directs cattle production to the geographic areas best suited to profitable, sustainable production, while providing alternative, non-livestock agricultural activities for producers in geographic areas that are less efficient or lucrative with regard to cattle production. These measures will contribute to policy objectives aimed at reducing range- and pastureland while increasing total area under production of non-livestock agriculture. At the same time, they will increase producer incomes in both cattle and new non-livestock areas.

4. Mobilizing new sources of funds aligned to finance government policies, particularly those aimed at national and sub-sectoral land use and productivity goals. This measure is essential for lasting, thorough, and impactful implementation of current and future policy objectives. The effort will help

achieve national and sector-specific land use and productivity objectives, support improved access to financial products and markets for small producers, and help reduce costs to producers to adopt best practices.

4.1.2 DRC/Liberia palm oil

The opportunities to support sustainable palm oil expansion in Liberia and the DRC can be grouped into three high-level recommendations:

1. Support National Interpretation of such schemes as the RSPO P&C as a means of facilitating dialogue between key stakeholders throughout the value chain and promoting the development of a national strategic plan for oil palm development.
2. Strengthen land use governance, clarify land tenure, and support communities seeking to secure land rights to reduce social conflict and improve accountability and enforcement related to illegal deforestation and development.
3. Support zero-deforestation business models by providing financial and technical support to smallholders in particular, with the ultimate objective of improving productivity, traceability, and grower livelihoods while conserving forest area.

4.1.3 Peru palm oil

The opportunities to support sustainable palm oil expansion Peru can be grouped into three high-level recommendations:

1. Strengthen land use governance and clarify land rights. Investments should be made to strengthen land use regulations and governance to help resolve current conflicts arising from palm oil expansion in San Martin, Loreto, and Ucayali regions. Within Peru´s current decentralization context, this measure can best be achieved by supporting efforts to consolidate the infrastructure and operational capacities of ARAs. Specifically, within the work plan of each ARA, USAID could support ongoing land titling and tenure security initiatives in coordination with the regional agricultural authority (DRA; Dirección Regional de Agricultura) in oil palm growing areas. Emphasis should be placed on assigning tenure and title to the existing forest estate (Protected Areas, Indigenous Lands, and Permanent Production Forests) and then extending titling activities to agricultural areas, thus preventing potential agricultural leakage. In areas where the state is still the main landholder, the Principal Land Use Category should be assessed and formalized to preempt land use allocation ambiguity by regional/national government.
2. Support zero-deforestation business models through a dedicated financial vehicle. A financing program should be developed and implemented to encourage ecological intensification and increased yield from smallholder producers and the development of palm oil on suitable already deforested landscapes. Emphasis should be placed on smallholder producer associations, as the potential for zero-deforestation palm oil expansion by corporate plantations is very limited[13]. The program could take the form of a zero-deforestation palm oil fund, managed by the national office of a development bank, reaching smallholder producers through local financial institutions. Peru's successful second-tier banks and microfinance institutions would be a good candidates for this role.

[13] Hajek et al. (2015). "Toward zero-deforestation oil palm in Peru: Understanding actors, markets, and barriers". USAID-supported Forest Carbon, Markets and Communities Program. Washington, D.C., USA.

Vertically integrated parent companies of corporate plantations — e.g., Grupo Romero — potentially could be interested in contributing to the fund if they saw such actions as a means to obtain economically viable and environmentally sustainable feedstock for their downstream food and biofuel investments.

3. Support dialogue and zero-deforestation principles, criteria, and knowledge ensuring the participation of all key value chain actors in Peru.

4.2 FINANCING FRAMEWORKS

TABLE 3: FINANCING FRAMEWORK – COLOMBIA

Program Description	Implementing zero-deforestation verification systems	Enhancing zero-deforestation value chains for beef and dairy	Converting land with low potential for profitable, sustainable cattle production to non-livestock production	Mobilizing new sources of funds to support policy objectives
Targeted Recipients	CARs for jurisdictional-level and a cross section of key producers for farm-level verification.	• Producers/land managers • Local technical advisors • FEDEGAN • Operators where there are key inefficiencies along the value chain • Government of Colombia (infrastructure)	• Producers/land managers • Local technical advisors/industry groups • Operators where there are key inefficiencies along the value chain • Government of Colombia (infrastructure)	• Small and medium-sized enterprises (SMEs) • Cooperatives • Fondo para el Financiamiento del Sector Agropecuario (FINAGRO) • Intermediate banks • Private investment funds • Government of Colombia (infrastructure)
Financing Modalities	• Technical assistance	• Technical assistance, producer-facing credit, long-term purchase contracts	• Technical assistance, producer-facing credit	• Loans, equity investments, guarantees, green bonds, and matching funds
Magnitude of Financing	• $1-2 million per CAR	• $20-40 million per key geographic area	• $20-40 million per value chain/ per geographic area	• $2-5 billion per year
Management; Duration	• CAR; 24 months	• FEDEGAN; five years	• Five years	• FINAGRO; five to 10 years

Program Description	Implementing zero-deforestation verification systems	Enhancing zero-deforestation value chains for beef and dairy	Converting land with low potential for profitable, sustainable cattle production to non-livestock production	Mobilizing new sources of funds to support policy objectives
Key Activities Financed	• Analysis to determine CARs and get buy-in on scale/scope of verification • Implement verification schemes along multiple points of the supply chain • Re-enforce local land tenure tracking systems • Establish ongoing monitoring process	• Perform rapid assessment of key cattle areas to identify required value chain "upgrades" • Identify specific value chain enhancements to deliver and trace zero-deforestation and sustainable products • Engage supply chain buyers to integrate sustainability results into purchase contracts • Make enabling investments (inputs, technical assistance, dedicated financing) in high-potential value chains, through public-private partnerships (PPP) and other ways to engage private sector • Work with the Government of Colombia (at national and local levels) to align policies, governance priorities, and public funding sources to value chain upgrades	• Perform analysis to determine the most appropriate places/producers to repurpose land • Determine the most suitable set of crops for each area, and analyze their productive capacity and economics to land managers and the Government of Colombia • Provide support (education, inputs, technical assistance, dedicated financing) to promote adoption of growing new agricultural products	• Support FINAGRO to align financing products to fund activities needed to support rangeland-related policy • Attract additional sources of funds for FINAGRO • Work with Pro Colombia to improve their offerings related to attracting private capital to the sector • Coordinate with the Overseas Private Investment Corporation (OPIC) and other development finance institutions (DFIs) on commitments to support investment needed in the section (debt guarantees) • Provide investor focused risk reduction financing (first loss, guarantees)

Program Description	Implementing zero-deforestation verification systems	Enhancing zero-deforestation value chains for beef and dairy	Converting land with low potential for profitable, sustainable cattle production to non-livestock production	Mobilizing new sources of funds to support policy objectives
Expected Outcomes	• CAR and/or individual producers have verified zero-deforestation products • Deforestation is reduced • Land security and accountability improved	• Productivity of beef and dairy value chains in key areas increases • Economic returns from beef and dairy production increase (especially for smallholders) • Well-being of ranchers increases • Hectares of rangeland is reduced	• Low-productivity rangeland is converted to high-productivity agricultural production • Competiveness of these supply chains increases for domestic and export markets • Government of Colombia and landowner revenue from production increases	• Amount of financing to the agriculture sector overall increases five-fold, moving from being donor-funded to having a meaningful amount of commercial-oriented funding • Financial products, designed to meet producers' needs, are available at multiple scales
Leveraging Other Sources	• Instituto de Hidrología, Meteorología y Estudios Ambientales' (IDEAM's) investment in deforestation monitoring • Regalias funds • Supply chain buyers providing long-term purchase contracts • FINAGRO loans to support farm-level verification	• Donor programs • FINAGRO current sources of funds • Regalias • Government of Colombia general funding • Supply chain buyers providing long-term purchase contracts	• Donor programs • FINAGRO current sources of funds • Regalias • Government of Colombia general funding • Supply chain buyers providing long term purchase contracts	• Private equity funds in Colombia/internationally • Capital markets – Green Bonds • DFI debt and fund investments • FINAGRO current sources of funds

Program Description	Implementing zero-deforestation verification systems	Enhancing zero-deforestation value chains for beef and dairy	Converting land with low potential for profitable, sustainable cattle production to non-livestock production	Mobilizing new sources of funds to support policy objectives
Potential Risks	• Jurisdictional level net zero-deforestation verification or certification may be achieved in the absence of producing zero-deforestation beef/diary • Certifying traceability through the supply chain requires significant coordination and multiparty buy-in	• Areas not well suited for cattle receive no support (support for these areas should come from other recommendations) • Adoption rates are low, because cattle on land is being used as a means of securing tenure and not for production • Supply chain buyers cannot provide coherent and meaningful incentives	• Low adoption since ranchers cannot convert to farmers • Crops planned for conversion are not well suited and fail or have low production • Land managers are forced to convert land use	• Case for investment returns cannot be made • Scale of finance cannot be sourced • Investment transaction costs too high • Funds are channeled to only agribusiness-size producers without sustainable production requirements
Particular Risks/Opportunities to Support Women and Other Marginalized Groups	• Risk of excluding smallholders if verification scheme is not inclusive • If the marginalized producers could become part of verification schemes, they could become part of the more formal value chain	• Risk of excluding smallholders • Opportunity to have program set asides for marginalized groups, with performance requirements	• Risk of excluding smallholders • Opportunity to have program set asides for marginalized groups, with performance requirements	• Risk of excluding smallholders • Opportunity to have special support for commercial "readiness" for groups of small producers

TABLE 4: FINANCING FRAMEWORK – DRC/LIBERIA

Program description	Support National Interpretation of relevant and verifiable principles and criteria	Strengthen land use governance and clarify land rights in palm oil regions	Support zero-deforestation business models through dedicated fund
Targeted Recipients	All key actors on the Liberia and DRC palm oil value chain	Local and regional agricultural and land use authorities	Smallholders and associated processing facilities (smallholder or corporate)
Financing Modalities	Grant to value chain development organization	Grant to government; technical assistance	Grant or low-interest loan to a regional zero-deforestation palm oil fund
Magnitude of Financing	US$1 million per country	US$10 million per country	US$40 million (25 percent non-senior tranche of structured finance package)
Management; Duration	ProForest (or similar international organizations), systems such as RSPO; two years	USAID in coordination with regional and local government authorities; five years	African Development Bank (ADB) with local intermediary financial institution (IFI) specialized in rural credit in each country; 10 years
Key Activities Financed	• Provide logistical support for regularly convening/engaging national members of stakeholder such as those engaged in RSPO and others • Undertake necessary research and analysis and/or contract experts to facilitate dialogue, provide	• Build government staff capacity around land tenure; free, prior and informed consent (FPIC); and other community rights issues • Develop national land use plan and support development of cadastral maps • Strengthen infrastructure, equipment, and supplies to support policy implementation, enforcement, and	• Assess deforested and degraded lands to determine potential for restoration and/or development as responsible cultivation area • Rejuvenate old plantation and increase yields by replanting with new seed varieties/cultivars • Provide technical training and working capital for increasing

	input to National Interpretation process, and carry out technical work • Build technical and engagement capacity of government and private sector stakeholders, as well as smallholders and communities • Incorporate findings and outputs of NI process into development of national strategic plan for oil palm development	monitoring by government (transport, surveillance, reporting capacity) • Provide education, training, and support to smallholder producers and communities seeking to secure land rights • Establish independent Legal Advice Unit to assist in resolving land tenure and natural resource use claims	yield through good planting and agricultural practices • Provide income support to smallholders during replanting and maturation periods • Cover administrative and operational costs of IFI associated with fund management
Expected Outcomes	• Approved National Interpretation of relevant and verifiable principles and criteria • Third-party verification of palm oil production • Mechanism to support creation and implementation of a national strategic plan for oil palm development • Mechanism to support continuous, constructive dialogue between key actors in the palm oil sector, providing an ongoing forum to discuss and understand challenges, identify solutions to barriers, and create shared goals for palm oil development	• Comprehensive and transparently developed land use plan • Local communities increasingly formally recognize land and resource rights, leading to reduced land conflict • Strengthened capacity for monitoring and enforcement of regulations leading to non-increasing or reduced deforestation rates of regional forest estate	Outcomes in target region: • Four-fold increase in yield for 4,000+ smallholder producers • 20,000+ hectare expansion of zero-deforestation palm oil plantations Supply chain outcomes: • 60,000 ton per annum increase in crude palm oil. • Zero-deforestation palm oil enters domestic and international markets
Leveraging Other Sources	• In-kind contributions of staff time and expertise from initiatives such as RSPO, implicated private sector companies, and other regional stakeholders	• In Liberia there is an opportunity to leverage the recent agreement with Norway; opportunities should exist to	• Co-invest with the ADB • Opportunities for local/regional investment from private sector palm oil actors sourcing FFB from associated and/or independent smallholders – US$120-160 million

		leverage other donors working on tenure issues • Negotiate co-financing with finance authority in each country • Seek to cover staff salary and ongoing operational costs in order to secure continuity in the work	
Potential Risks	• Entrenched interests and preconceptions regarding oil palm cultivation prevent genuine dialogue • Lack of capacity and legitimacy of government authorities to convene all key actors	• Low technical capacity of staff at all levels and unstable environments (frontier regions marked by conflict) lead to high staff turnover and low institutional capacity • Pervasive informality and corruption in land use and allocation sector	• Reduced smallholder profitability from imported vegetable oils/biofuels • Leakage of agricultural activities to surrounding forest lands • Default by farmers due to poor credit history in agricultural sector • Credit default or unfair credit terms pose risk to smallholder land tenure
Particular Risks/Opportunities to Support Women and Other Marginalized groups	• Opportunity through the National Interpretation process for marginalized stakeholder groups like women, indigenous people, and smallholders to formally engage with commercial and political actors • Risks of indirectly excluding marginalized groups; engagement processes must be designed to ensure equitable and appropriate inclusion of women and indigenous peoples in the dialogue • Process should address specific challenges of smallholders, women and other marginalized groups related to verification schemes, i.e.,	• Opportunity to support indigenous communities and smallholders in filing claims and securing land tenure and use rights • Risks related to lack of transparency and marginalized communities' inherent mistrust of government and private sector, especially given history of corruption	• Opportunity to provide direct financial support for women and other marginalized groups to promote equitable development opportunities and support inclusion within sector • In improving commercial supply chains, there is the risk of losing traditional and artisanal production and trade models, predominantly held by women

	implementation and audit costs, technical capacity, etc.		

TABLE 5: FINANCING FRAMEWORK – PERU

Program description	Operationalize systems such as RSPO	Strengthen land use governance and land rights in palm oil regions	Support zero-deforestation business model through dedicated fund
Targeted Recipients	All key actors on the Peruvian palm oil value chain	Environmental Authority – regional government	Smallholder associations and linked processing facilities (smallholder or corporate)
Financing Modalities	Grant to development organization or National Palm Federations	Grant to Peruvian government	Loan to zero-deforestation palm oil fund
Magnitude of Financing	US$1 million	US$10 million	US$20 million (25 percent non-senior tranche of structured finance package)
Management; Duration	United Nations Office on Drugs and Crime (UNODC) or FEDEPALMA; two years	USAID Pro-Decentralization Project in coordination with InterRegional Council (CIAM); five years	World Bank International Finance Corporation (WB-IFC) or IADB Inter-American Investment Corporation (IIC), with local intermediary financial institution (IFI) specialized in rural credit; 10 years
Key Activities Financed	• Logistical support to regularly convene relevant stakeholders and carry out technical work; contract independent experts for the facilitation of above	• Strengthen infrastructure, equipment, and supplies of ARA offices and field units (transport, surveillance, reporting capacity) • Infrastructure, technical assistance, and equipment to Regional Cadastre Office to develop cadastral maps • Infrastructure and equipment of Regional Environmental Attorney • Implement independent Legal Advice Unit to assist resolution of land tenure and natural resource use claims by smallholders and other landholders	• Soil restoration on deforested lands (ecosystem regeneration) • New plantation installation on deforested lands • Old plantation renovation (new seed/cultivars) • Working capital for increasing yield (ecological intensification) • Administrative and operational costs of IFI

Expected Outcomes	• Continuous, constructive dialogue between key actors of the value chain • National Interpretation and implementation of relevant and verifiable principles and criteria • Development of Nationally Appropriate Zero-Deforestation Palm Oil Standard within the context of systems such as the RSPO P&C	Outcomes in target region: • Strengthened land use governance and reduced land conflict • Strengthened enforcement of regulations leading to non-increasing or reduced deforestation rates of regional forest estate Value chain outcomes: • Improved value chain governance and transparency	Outcomes in target region: • Two-fold increase in yield for 500+ smallholder producers • 20,000+ hectare expansion of zero-deforestation palm oil plantations. Value chain outcomes: • 45,000 ton per annum increase in crude palm oil • Verified zero-deforestation palm oil enters domestic market
Leveraging Other Sources	• In-kind contributions in staff time and expertise from engaged stakeholders members • Communicate with other sustainable commodity initiatives in Peru	• Negotiate 1:1 co-financing with MEF to cover salaries and ongoing costs of ARAs (increase in National Budget of participating regions) • Work in cooperation with IADB land titling project (PE-L1026) and Forest Investment Program	• Co-invest with WB-IFC or IADB-IIC and, potentially, Peruvian corporate palm oil actors like Grupo Palmas. US$30 -40 million. The initiative would also be facilitated by the infrastructure, staff and best practices of the second-tier banks involved. US$500 million would be needed for a target of 100,000 hectares of zero-deforestation oil palm.
Potential Risks	• Entrenched interests and preconceptions regarding palm oil cultivation prevent genuine dialogue • Lack of capacity in Peruvian government to convene all key actors	• High staff turnover, and thus low implementation capacity, in regional governments and local environmental authorities • Pervasive informality of land use and allocation sector	• Reduced smallholder profitability from imported vegetable oils/biofuels • Leakage of agricultural activities to surrounding forest lands • Default by farmers due to poor credit history in agricultural sector

Particular Risks/Opportunities to Support Women and Other Marginalized groups	• Smallholders, women and indigenous people representatives could openly express their views and engage in an open dialogue with commercial and political actors of the palm oil value chain. • The inherent logistical costs of participation so far have hindered the participation of women and indigenous people organizations in relevant processes in Peru significantly. The program should cover these costs to encourage broader societal presence.	• Fulfill indigenous community tenure and land titling claims as a precondition for zero-deforestation palm oil • Indigenous communities often have been excluded from regional governance processes and initiatives, especially those of a technical nature. The program should actively support their participation.	• Support women's labor conditions within the smallholder associations and in associative and corporate processing facilities. The plantation-monoculture palm oil model is at odds with indigenous production models, which are mainly subsistence and rely on diversity of production. The expansion of monoculture models, including palm oil, can undermine indigenous views of development that highlight diversity, food security, and a reliance on primary forests.

U.S. Agency for International Development
1300 Pennsylvania Avenue, NW
Washington, DC 20523
Tel: (202) 712-0000
Fax: (202) 216-3524
www.usaid.gov